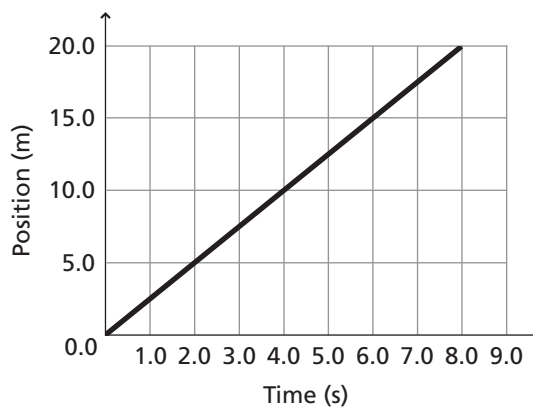


Section 2.4 **How Fast?**

In your textbook, read about speed and velocity on pages 43–47.

Refer to the diagram below to answer questions 1–12.



1. What is the formula for finding Δt ?
2. Find Δt for the change in position from $d = 5$ m to $d = 15$ m.
3. What is the formula for finding Δd ?
4. Find Δd for the time interval from $t = 2.0$ s to $t = 8.0$ s.
5. What is the formula for finding the slope on a position-time graph?

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6. What is the slope of this line?

7. What does the absolute value of the slope of this line represent?

8. What is the velocity of this object in m/s?

9. If this object continues at the same velocity, how long would it take this object to reach a position of $d = 150$ m?

10. If this object continues at the same velocity, how far will it have traveled when $t = 200$ s?

11. What formula would you use to determine the position of this object if it had an initial position vector and then traveled at a fixed velocity for a certain amount of time?

12. How far will this object have traveled if it had an initial position of 220 m and traveled at a velocity of 2.5 m/s for 48 s?